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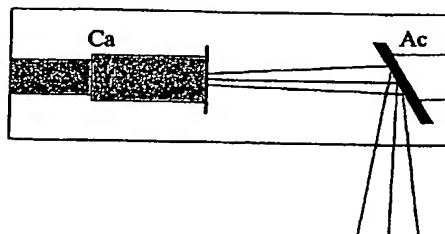
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(54) Title: X-RAY DIFFRACTION METHOD



(57) Abstract: An X-ray diffraction method for the analysis of polycrystalline materials, the method comprising: (a) providing a polycrystalline material for analysis; (b) providing a polychromatic X-ray source, wherein the source produces X-rays by accelerating charged particles to energies of no more than 1 MeV; (c) collimating X-rays from the polychromatic X-ray source into a beam having a divergence in the range of from 10^{-4} to 10^{-2} radians; (d) exposing at least a portion of the polycrystalline material to the collimated X-ray beam, whereby the beam is diffracted; (e) collecting at least some of the diffracted X-rays in an energy dispersive X-ray detector or array; and (f) analysing the collected, diffracted X-rays.